Appl. No. 09/954,760 Amdt. dated 10/26/04 Reply to Office Action of 8/26/04 PATENT Docket: 010420

IN THE CLAIMS:

CLAIMS:

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- 18. Cancel.
- 19. Cancel.
- 20. Cancel.
- 21. Cancel.
- 22. (Original) An apparatus comprising:

an exponent extractor that extracts an exponent component from a number;

- a mantissa extractor that extracts a mantissa component from the number;
- a first lookup table used to convert the exponent component from a first domain to a second domain;

a second lookup table used to convert the mantissa component from the first domain to the second domain; and

an adder that combines the exponent component and the mantissa component in the second domain.

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23. (Original) An apparatus comprising:

an exponent extractor that extracts an exponent component from a number; a mantissa extractor that extracts a mantissa component from the number;

a first lookup table used to convert the exponent component from a first domain to a second domain;

a second lookup table used to convert the mantissa component from the first domain to the second domain; and

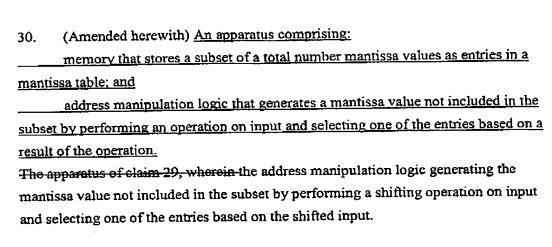
an adder that combines the exponent component and the mantissa component in the second domain,

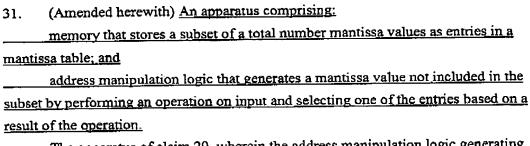
further comprising a shifter that truncates the combination of the exponent component and the mantissa component in the second domain.

- 24. (Original) The apparatus of claim 23, further comprising a shifter that rounds the combination of the exponent component and the mantissa component in the second domain.
- 25. (Original) The apparatus of claim 23, wherein the first domain is a linear domain and the second domain is a logarithmic domain using decibels as units.
- 26. (Original) The apparatus of claim 23, wherein the second lookup table is a mantissa table comprising a subset of a total number of mantissa values, the apparatus further comprising address manipulation logic that performs an interpolation, wherein an entry is selected from the mantissa table based on the interpolation.
- 27. (Original) The apparatus of claim 23, wherein the second lookup table is a mantissa table comprising a subset of a total number of mantissa values, the apparatus further comprising address manipulation logic that performs a shifting operation on input, wherein an entry is selected from the mantissa table based on the shifted input.
- 28. (Original) The apparatus of claim 27, wherein the second lookup table is a mantissa table including entries that comprise non-uniform sampling of a logarithmic function.

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The apparatus of claim-29, wherein the address manipulation logic generating the mantissa value not included in the subset by interpolating and then selecting one of the entries based on the interpolation.